

## **EXHIBIT 4**

PUERTO RICO JUDICIARY RETIREMENT SYSTEM

June 30, 2017 Actuarial Valuation Report

***Based on the census data, assets, and assumptions used in this valuation report, PRJRS assets are expected to be exhausted in the 2018-2019 fiscal year.***

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March 26, 2019

Mr. Luis M. Collazo Rodríguez, Esq.  
Administrator  
Puerto Rico Judiciary Retirement System  
437 Ponce de León Avenue, 15<sup>th</sup> Floor  
Hato Rey, PR 00917-3711

Dear Mr. Rodríguez:

This report presents the results of the actuarial valuation of the Puerto Rico Judiciary Retirement System (PRJRS), a single employer defined benefit pension plan, as of June 30, 2017. Section I contains highlights of the valuation including a general discussion. The subsequent Sections contain schedules summarizing the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions and methods.

### Purpose

The main purposes of this report are:

- to present information pertaining to the operation of the plan for inclusion in financial statements based on relevant Statements of the Government Accounting Standards Board (GASB);
- to review the experience under the plan since the previous valuation; and
- to assess the relative funded position of the plan.

The use of this report for purposes other than those stated above may not be appropriate and should be reviewed with Milliman.

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The report was prepared solely to provide assistance to the Commonwealth of Puerto Rico Judiciary Retirement System for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning PRJRS's operations, and uses PRJRS's data, which Milliman has not audited. Milliman and PRJRS do not intend to benefit and assume no duty or liability to other parties who receive this report. Milliman and PRJRS recommend that any third party recipient of this report be aided by its own actuary or other qualified professional when reviewing the Milliman report. Any distribution of this report should be made in its entirety.

#### Data Reliance

In performing this analysis, we relied on the census data, asset information, and other information (both written and oral) provided by the System. We have not audited or verified the census data, asset information, or other information. To the extent that any of these are inaccurate or incomplete, the results of this valuation may likewise be inaccurate or incomplete.

We did not audit the data used in our analysis, but did review it for reasonableness and consistency and have not found material defects in the data. It is possible that material defects in the data would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The asset information used for the valuation was taken from unaudited financial statements as of June 30, 2017 provided by PRJRS on February 15, 2019 and is subject to change upon audit.

#### Future Measurements

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions;
- Future changes in the actuarial assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as potential additional contribution requirements due to changes in the plan's funded status); and,
- Changes in the plan provisions or accounting standards.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such measurements.

#### Certification

We hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendations of the American Academy of Actuaries and are based on actuarial assumptions and methods adopted by the System. All of the actuarial assumptions were developed by Milliman in consultation with PRJRS. We believe that the actuarial assumptions and methods used in this actuarial valuation are reasonable for the main purposes of this report as stated herein.

Actuarial computations presented in this report are for purposes of fulfilling financial accounting requirements under the GASB Statements 45 and 67. The calculations in the enclosed report have been made on a basis consistent with our understanding of the plan provisions described in Section VI of this report, and of the applicable GASB Statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

This valuation reflects the law in effect as of June 30, 2017, as required by GASB accounting. As a known event, the impact of Act 106-2017, effective August 23, 2017, is reflected as well. The impact of any prospective legislative changes impacting the System are not yet fully known.

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Qualifications

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

We are members of the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render this actuarial opinion.

Respectfully submitted,



By Glenn D. Bowen, F.S.A.  
Member American Academy of Actuaries



Katherine A. Warren, F.S.A.  
Member American Academy of Actuaries

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

#### A. Summary of Principal Results of June 30, 2016 Actuarial Valuation

##### ***GASB 67 Accounting (\$ amounts in thousands)***

	June 30, 2016 <u>Valuation</u>	June 30, 2017 <u>Valuation</u>
Total Pension Liability <sup>1</sup>	\$651,666	\$615,196
Net Fiduciary Position	34,830 <sup>2</sup>	26,255
Net Pension Liability	616,836	588,941

##### ***GASB 45 Accounting (\$ amounts in thousands)***

	June 30, 2016 <u>Valuation</u>	June 30, 2017 <u>Valuation</u>
Actuarial Accrued Liability <sup>1</sup>	\$6,985	\$7,429
Actuarial Value of Assets	0	0
Unfunded Actuarial Accrued Liability	6,985	7,429
Employer Normal Cost	246	283
as a percent of payroll	0.76%	0.89%
Annual Required Contribution		
for upcoming fiscal year	1,023	1,180
as a percent of payroll	3.18%	3.71%

<sup>1</sup> A discussion of the benefits included in the Total Pension Liability and Actuarial Accrued Liability begins on page 3 of this section.

<sup>2</sup> Reflects addendum to June 30, 2016 valuation dated January 23, 2019.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

	July 1, 2015 Census Data <u>Collection</u>	July 1, 2016 Census Data <u>Collection</u>
<b><i>Participant Data</i></b>		
<u>Active Members</u>		
Number	371	364
Average Salary	\$86,804	\$87,444
Total Annual Salary	\$32,204,166	\$31,829,438
<u>Retirees</u>		
Number	386	414
Average Monthly Basic System Benefit	\$4,589	\$4,570
Average Monthly System Administered Benefit	\$298	\$280
<u>Disabled Members</u>		
Number	0	0
Average Monthly Basic System Benefit	n/a	n/a
Average Monthly System Administered Benefit	n/a	n/a
<u>Beneficiaries</u>		
Number	62	61
Average Monthly Basic System Benefit	\$1,668	\$1,597
Average Monthly System Administered Benefit	\$80	\$158
<u>Terminated Vested Members</u>		
Number	39*	39*
Average Monthly Basic System Benefit (for those assumed to receive an annuity)	\$3,414	\$3,453

\* Terminated vested members include both (a) members due a deferred annuity benefit (19 as of July 1, 2015 and 18 as of July 1, 2016) and (b) members who are due a refund of member and, if applicable, employer contributions (20 as of July 1, 2015 and 21 as of July 1, 2016). Former active members hired before July 1, 2014 who are not vested in PRJRS but are covered by another Puerto Rico government system are assumed to be due both their member and employer contributions with interest.

Basic System Benefit and System Administered Benefit amounts shown above are for pension benefits, including COLAs, and are as of the respective valuation date. Special Law "bonus" benefits are not reflected.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

#### **B. General Discussion**

##### Basic System Benefits

As summarized in Section VI, the Puerto Rico Judiciary Retirement System (PRJRS) provides benefits to members, or their beneficiaries, upon:

- Retirement
- Disability
- Vested withdrawal
- Death
- Nonvested withdrawal (return of contributions)
- Christmas bonus (\$150) (if hired before December 24, 2013)

These benefits will be referred to as the “Basic System Benefits” throughout this report.

Active members hired before December 24, 2013 contribution 8.0% of compensation. Active members hired between December 24, 2013 and June 30, 2014 contribute 10% of compensation and active members hired July 1, 2014 or later contribute 12% of compensation.

##### System Administered Benefits

Also summarized in Section VI are benefits granted under a series of special laws that are administered by PRJRS, including:

- Additional minimum death benefit (if hired before July 1, 2014)
- Cost-of-living adjustments (COLAs)
- Medical insurance plan contribution
- Medication bonus (if hired before December 24, 2013)
- Christmas bonus (\$450) (if hired before December 24, 2013)

These benefits will be referred to as “System Administered Benefits” throughout this report.

##### System Experience since Prior Valuation

The approximate actual rate of return since the prior valuation was 8.04% for 2016-2017. The investment return assumption for the 2016-2017 fiscal year was 5.7%. The asset

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

gain due to investment performance that was more than expected served to decrease the System's net pension liability.

Our analysis of System experience from June 30, 2016 to June 30, 2017 resulted in a liability loss of \$13 million (e.g. – the June 30, 2016 Total Pension Liability of \$652 million was expected to increase to \$669 million as of June 30, 2017, and instead increased to \$682 million, prior to assumption and plan changes).

Major sources of gains and losses are as follows:

1. \$1 million loss on new entrants and rehires
2. \$6 million loss on 11 "pop-up" retirees who were not in the prior year census data
3. \$5 million loss on changes in salary, judicial service, and other government service different than expected among continuing active members
4. \$3 million loss on 14 active members who retired since the prior valuation
5. \$3 million gain on continuing retirees and beneficiaries due to mortality experience and data updates

Further discussion is warranted on Item 4.

For Item 4, the act of retiring from active status generates a liability loss for an individual member. A possible explanation for additional liability losses attributable to individual members includes any data clean-up that may have occurred during the benefit calculation process when the member retired.

#### Changes in Assumptions since Prior Valuation

Based on GASB 67 parameters and the upcoming depletion of System assets, the discount rate is based on a bond market index. PRJRS has selected the Bond Buyer General Obligation 20-Bond Municipal Bond Index for this purpose. The index rate increased from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017. The investment return assumption is no longer applicable. The investment return assumption was 5.70% as of June 30, 2016.

This valuation reflects a decrease in the interest rate assumption for GASB 45 purposes from 3.10% per year to 3.00% per year. The 3.00% assumption reflects Milliman's capital market assumptions as of June 30, 2017, reflects the expected benefit payment period, and assumes that the Commonwealth's General Fund (the assets used to pay the GASB 45 benefits) is invested approximately in 75% cash and 25% short-term bonds.

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### SECTION I – SUMMARY

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the the projected mortality improvement scale issued in the valuation year.

#### Changes in Plan Provisions since Prior Valuation

##### *Act 106-2017*

Act 106-2017 was enacted on August 23, 2017 and provides that PRJRS will be funded on a pay-as-you-go basis. The following contributions are eliminated by Act 106-2017:

- Payroll-based employer contributions – was 30.34% of payroll
- Act 162-2013 Additional Contribution – was \$13.5 million in 2016-2017 and projected as \$13.5 million from 2017-2018 to 2045-2046, with annual recalculations (with a past due amount of \$23.7 million payable in FY 2016-2017)

Prior to July 1, 2017, credits to the notional Hybrid Program Contribution Account included member contributions and interest credits based on the investment yield of the System's assets as determined by the Board. With the switch to a pay-as-you-go basis for funding benefits, there will be no System assets to generate investment returns, and we have been informed that no future interest credits will be applied to members' Hybrid Program Contribution Accounts beginning July 1, 2017 and later.

#### Changes in Methods since the Prior Valuation

There have not been any changes in methods since the prior valuation.

#### Overview of Recent Significant Changes in Plan Provisions

##### *Act 3-2017*

Act 66-2014 originally implemented a salary freeze for FY 2014-15 through FY 2016-17. The recent extension in Act 3-2017 freezes salaries for four additional years, through FY 2020-21.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

#### *Fiscal Plan*

The *Fiscal Plan for Puerto Rico* (last revised October 23, 2018) was approved by the Puerto Rico Fiscal Board (a body created by the enactment of the Puerto Rico Oversight, Management, and Economic Stability Act (“PROMESA”)). Section 16.2.1 anticipates a benefit accrual freeze and subsequent transition to a defined contribution plan and Section 16.2.2 anticipates a 10% reduction in aggregate benefit payments, both with an implementation date of July 1, 2019. As legislation has not been passed yet, the potential freeze and reduction are not reflected in this June 30, 2017 valuation.

The Fiscal Plan does reflect that PRJRS will be funded on a pay-as-you-go basis once assets are exhausted.

#### *Commentary on Pay-as-you-go (“paygo”) funding*

Operating a retirement system on a paygo basis may be conceptually simple, but can be very difficult in practice when reserves are limited or non-existent. While the valuation of liabilities for financial reporting purposes is conducted on an annual basis in arrears, benefit payments vary continuously and respond instantaneously to emerging events. There are also administrative expenses incurred continuously.

Disbursements will experience natural variation due to emerging demographic experience and can also be greatly impacted by specific management decisions, such as an early retirement incentive program or other workforce reduction.

A major issue that needs to be addressed is determining what the process of budgeting for paygo funding will be. While an expected paygo amount can be set at the time of budgeting for an upcoming fiscal year, disbursements can vary from expectations during the fiscal year.

- If the budget is set based on expected disbursements, in the event of adverse experience during the fiscal year, will additional funds be available?
- Alternately, would the budget request include a margin to provide a buffer against adverse experience?
  - If so, consideration will need to be given to what level of margin should be included. Scenarios such as higher retirement activity and/or lower mortality rates could be modeled to provide a range of potential adverse outcomes.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION I – SUMMARY

- Increased security comes at increased cost, and no specific margin guarantees protection against all circumstances.
- How would the impacts of specific management decisions be handled?
  - For instance, assume that the fiscal year paygo amount appears to be sufficient as of mid-year.
  - Then a reduction in workforce is announced, with an effective date of March 31.
  - In the final three months of the fiscal year, disbursements will be higher than expected as some members will take a refund of contributions upon termination, and other members who are retirement eligible will commence their annuity earlier than they had been expected to do so.

There are certainly many more operational details to be considered. We provide this limited commentary in order to point out that paygo operation is a complex issue that requires careful thought and planning, constant monitoring, and the ability to respond to emerging events quickly.

#### GASB Pension Accounting Information

Pension accounting results in Section III of this report have been prepared under GASB 67 parameters to determine a Total Pension Liability at the end of the fiscal year. The Net Fiduciary Position is then subtracted to arrive at the Net Pension Liability at the end of the fiscal year. The Net Pension Liability reflects the full amount of the unfunded liability, and thus can be significantly volatile from year to year.

#### GASB OPEB Accounting Information

Accounting results for the Medical Insurance Plan Contribution in Section IV of this report are calculated under Governmental Accounting Standards Board Statement No. 45, *“Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions”* (GASB 45). (Note that the Medication Bonus has been included in the GASB 67 results as a Pension Benefit because members can receive the bonus without submitting documentation to substantiate medication expenses.)

There are no member or employer contributions on behalf of the Medical Insurance Plan Contribution. This benefit is financed on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico. Since this benefit is not funded in advance, the ARC for this benefit has been calculated based on an assumed investment return rate of

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## **PUERTO RICO JUDICIARY RETIREMENT SYSTEM**

### **SECTION I – SUMMARY**

3.00% based on the asset allocation of the Commonwealth's general assets that are used to pay this benefit.

Note that GASB issued GASB 75 in June 2015 which makes changes to GASB 45 similar to how GASB 25/27 were updated by GASB 67/68. GASB 75 is effective beginning with the 2017-2018 fiscal year, unless earlier adoption occurs.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION II - SYSTEM ASSETS

#### A. Statement of Fiduciary Net Position

	<u>June 30, 2016</u>	<u>June 30, 2017</u>
<b>Assets</b>		
Cash and cash equivalents	\$4,353,000	\$1,045,000
Receivables and prepaid expenses	212,000	231,000
Investments:		
Bonds	33,761,000	21,468,000
Stocks/non-exchange traded commingled funds	10,906,000	12,133,000
Total loans to plan members	484,000	486,000
Other assets	<u>0</u>	<u>0</u>
Total investments	45,151,000	34,087,000
Invested securities lending cash collateral	1,078,000	0
Capital assets	<u>0</u>	<u>0</u>
Total assets	\$50,794,000	\$35,363,000
<b>Liabilities</b>		
Overdraft in cash with fiscal agent	\$6,491,000	\$7,710,000
Securities lending cash collateral	1,078,000	0
Due to Employees Retirement System	7,854,000	628,000
Other liabilities	<u>541,000</u>	<u>770,000</u>
Total liabilities	\$15,964,000	\$9,108,000
<b>Net position restricted for pensions</b>	\$34,830,000	\$26,255,000

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### SECTION II - SYSTEM ASSETS

#### B. Statement of Changes in Fiduciary Net Position

	<u>June 30, 2017</u>
Additions	
a. Contributions	
Employer Contributions	\$10,065,000
Member Contributions	3,084,000
Appropriations for Special Laws	<u>1,908,000</u>
Total Contributions	\$15,057,000
b. Investment Income	
Interest Income	\$728,000
Dividend Income	0
Net Appreciation of Investments	1,348,000
Other Income	311,000
Investment Related Expenses	<u>(27,000)</u>
Net Investment Income	\$2,360,000
Total Additions	\$17,417,000
Deductions	
Refund of Contributions	\$92,000
Annuities and Death Benefits	23,405,000
Special Law Benefits	1,908,000
Administrative Expenses	571,000
Other Expenses	<u>16,000</u>
Total deductions	\$25,992,000
Net Increase (Decrease)	(\$8,575,000)
Net position restricted for pensions	
Beginning of year (June 30, 2016)	34,830,000
End of year (June 30, 2017)	\$26,255,000

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION II - SYSTEM ASSETS

#### C. Estimated Annual Rate of Return for year ending June 30, 2017

	<u>Market Value</u>
1. Value of Assets as of June 30, 2016	\$34,830,000
2. Total Contributions	15,057,000
3. Benefit Payments and Expenses	25,992,000
4. Value of Assets as of June 30, 2017	26,255,000
5. Non-Investment Increment: (2) - (3)	(10,935,000)
6. Investment Increment: (4) - (1) - (5)	2,360,000
7. Time Weighted Value: (1) +.5 * (5)	29,362,500
8. Estimated Annual Rate of Return: (6) / (7)	8.04%

#### D. Estimated Historical Rates of Return

<u>Plan Year Ending</u>	<u>Market Value</u>
June 30, 2017	8.04%
June 30, 2016	4.78%
June 30, 2015	4.20%
June 30, 2014	23.95%
June 30, 2013	12.08%
5-year Compounded Annual Return	10.38%

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION III – GASB 67 ACCOUNTING INFORMATION

#### **A. Projection to Determine GASB 67 Date of Depletion (if any)**

GASB 67 requires that a projection be performed for the System to determine a date of depletion, if any, and the resulting effective discount rate. This complex projection is used to determine the point at which the System is expected to deplete assets per GASB 67. The analysis includes a projection of member and employer contributions, benefit payments, and administrative expenses attributable to current members. Amounts attributable to members hired in the future are excluded except to the extent that employer contributions exceed the cost of benefits for those future members. *Because the date of depletion projection does not incorporate all projected cash inflows to and outflows from the System, the results will differ from those in a comprehensive cash flow projection that models all inflows and outflows. In other words, the GASB 67 date of depletion is not the same as the date that the System would be expected to exhaust assets.*

Once a depletion date has been determined, it is used as an input in the determination of the accounting liability as follows:

- The present value of all future benefits for GASB 67 accounting purposes is determined as follows:
  - For projected benefit payments occurring prior to the date of depletion, the discount rate is based on the System's expected return on assets.
  - For projected benefit payments occurring after the date of depletion, the discount rate is based on a tax-free municipal bond index.
- Based on the resulting present value of all future benefits for GASB 67 accounting purposes, a single equivalent interest rate can be imputed that yields the same present value.

Due to imminent asset exhaustion, the single equivalent discount rate as of June 30, 2016 for GASB 67 was 2.86%, which was one basis point higher than the Bond Buyer General Obligation 20-Bond Municipal Bond index rate of 2.85%. Due to the transition to pay-as-you-go funding under Act 106-2017, no date of depletion test is performed as of June 30, 2017. The discount rate as of June 30, 2017 is set equal to the Bond Buyer General Obligation 20-Bond Municipal Bond index rate of 3.58%.

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**PUERTO RICO JUDICIARY RETIREMENT SYSTEM**

**SECTION III - GASB 67 ACCOUNTING INFORMATION**

**B. Net Pension Liability**

<b>Net Pension Liability</b>	<b><u>June 30, 2016</u></b>	<b><u>June 30, 2017</u></b>
Total pension liability	\$651,665,940	\$615,195,928
Fiduciary net position	34,830,000	26,255,000
Net pension liability	616,835,940	588,940,928
Fiduciary net position as a % of total pension liability	5.34%	4.27%
Covered payroll	\$32,204,166	\$31,829,438
Net pension liability as a % of covered payroll	1915.39%	1850.30%

The total pension liability was determined by an actuarial valuation as of July 1, 2016, calculated based on the discount rate and actuarial assumptions as shown in Section VII and was then projected forward to June 30, 2017. There have been no significant changes between the valuation date of July 1, 2016 and the fiscal year end. Any significant changes during this period must be reflected as prescribed by GASB 67. Covered Payroll is as of July 1, 2016.

**Discount Rate**

The plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current active and inactive members. Therefore, the discount rate for calculating the total pension liability is equal to the single equivalent rate that results in the same actuarial present value as the long-term expected rate of return applied to benefit payments, to the extent that the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and the municipal bond rate applied to benefit payments, to the extent that the plan's fiduciary net position is not projected to be sufficient.

	<b><u>June 30, 2016</u></b>	<b><u>June 30, 2017</u></b>
Discount rate	2.86%	3.58%
Long-term expected rate of return net of investment expense	5.70%	n/a
Municipal bond rate *	2.85%	3.58%

\* Bond Buyer General Obligation 20-Bond Municipal Bond Index

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PUERTO RICO JUDICIARY RETIREMENT SYSTEM

SECTION III - GASB 67 ACCOUNTING INFORMATION

C. GASB 67 Benefit Obligations as of June 30, 2017

	<u>Basic System Benefits</u>	<u>System Administered Benefits</u>	<u>Total</u>
1. Projected Benefits Payable to Retirees and Beneficiaries			
Retirees	\$304,891,660	\$50,960,628	\$355,852,288
Disabled Members	0	0	0
Beneficiaries	<u>10,043,489</u>	<u>1,236,568</u>	<u>11,280,057</u>
Total	314,935,149	52,197,196	367,132,345
2. Projected Benefits Payable to Vested Terminated Members	11,530,795	1,590,626	13,121,421
3. Actuarial Accrued Liability for Active Members	207,068,104	27,874,058	234,942,162
4. Total Pension Liability as of June 30, 2017: (1) + (2) + (3)	\$533,534,048	\$81,661,880	\$615,195,928

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO JUDICIARY RETIREMENT SYSTEM

**SECTION III - GASB 67 ACCOUNTING INFORMATION**

**D. Changes in Net Pension Liability**

Changes in Net Pension Liability	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2016	\$651,665,940	\$34,830,000	\$616,835,940
Changes for the year:			
Service cost	25,917,445		25,917,445
Interest on total pension liability	19,018,154		19,018,154
Effect of plan changes	(408,144)		(408,144)
Effect of economic/demographic (gains) or losses	10,871,693		10,871,693
Effect of assumptions changes or inputs	(66,464,160)		(66,464,160)
Benefit payments	(25,405,000)	(25,405,000)	0
Administrative and other expenses		(587,000)	587,000
Member contributions		3,084,000	(3,084,000)
Net investment income		2,360,000	(2,360,000)
Employer contributions		11,973,000	(11,973,000)
Balances as of June 30, 2017	\$615,195,928	\$26,255,000	\$588,940,928

**E. Sensitivity Analysis**

The following presents the net pension liability of PRJRS, calculated using the discount rate of 3.58%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.58%) or 1 percentage point higher (4.58%) than the current rate.

	1% Decrease 2.58%	Current Discount Rate 3.58%	1% Increase 4.58%
Total pension liability	\$702,356,803	\$615,195,928	\$544,120,640
Fiduciary net position	26,255,000	26,255,000	26,255,000
Net pension liability	676,101,803	588,940,928	517,865,640

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION IV - GASB 45 ACCOUNTING INFORMATION

#### A. Benefit Obligations

1. Projected Benefits Payable to Retirees and Beneficiaries	
Retirees	\$4,474,662
Disabled Members	0
Beneficiaries	0
Total	4,474,662
2. Projected Benefits Payable to Vested Terminated Members	250,098
2. Actuarial Accrued Liability for Active Members	2,704,613
3. Actuarial Accrued Liability as of June 30, 2017	7,429,373
4. Total Employer Normal Cost as of December 31, 2017	283,159

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION IV - GASB 45 ACCOUNTING INFORMATION

#### **B. Development of Unfunded Accrued Liability and Amortization Payment Payable as of December 31, 2017**

1. Actuarial Accrued Liability as of June 30, 2017	\$7,429,373
2. Actuarial Value of Assets as of June 30, 2017	0
3. Unfunded Actuarial Accrued Liability as of June 30, 2017: (1) - (2)	7,429,373
4. Amortization Period in years	9
5. Amortization Factor at beginning of year *	8.4043
6. Amortization Amount Payable as of December 31, 2017: [ (3) / (5) ] * ( 1.0300 ^ 0.5 )	\$897,159

\* Amortization calculated as a level percent of pay increasing 0.0% per year until June 30, 2021 and 3.0% per year thereafter

#### **C. Development of Annual Required Contribution**

1. Total Employer Normal Cost as of December 31, 2017	\$283,159
2. Amortization Payment as of December 31, 2017	897,159
3. Annual Required Contribution*: (1) + (2)	1,180,318

\* Assumes payments made throughout the year.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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**PUERTO RICO JUDICIARY RETIREMENT SYSTEM**

**SECTION IV - GASB 45 ACCOUNTING INFORMATION**

**D. Development of Net OPEB Obligation as of June 30, 2017**

1. Net OPEB Obligation as of June 30, 2016	\$2,605,860
2. Annual OPEB Cost for Fiscal Year 2016 - 2017	809,407
3. Fiscal Year 2016 - 2017 Employer Contribution	336,000
4. Net OPEB Obligation as of June 30, 2017: (1) + (2) - (3)	\$3,079,267

**E. Development of Fiscal Year 2017 - 2018 Annual OPEB Cost**

1. Annual Required Contribution	\$1,180,318
2. Interest on Net OPEB Obligation as of June 30, 2017	92,378
3. Adjustment to the Annual Required Contribution	377,384
4. Fiscal Year 2017 - 2018 Annual OPEB Cost: (1) + (2) - (3)	\$895,312

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO JUDICIARY RETIREMENT SYSTEM

**SECTION IV - GASB 45 ACCOUNTING INFORMATION**

**F. Schedule of Employer Contributions**

<u>Year Ended June 30</u>	<u>Actual Employer Contribution</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>	<u>Annual OPEB Cost</u>	<u>Percent Contributed</u>
2018	\$394,000	\$1,180,318	33.38%*	\$895,312	44.01%*
2017	336,000	1,023,194	32.84	809,407	41.51
2016	317,000	922,524	34.36	782,767	40.50
2015	307,000	846,667	36.26	744,614	41.23
2014	302,000	684,120	44.14	617,425	48.91
2013	291,000	642,988	45.26	596,879	48.75
2012	294,000	554,150	53.05	525,147	55.98

\* Percentage contributed for the year ended June 30, 2018 assumes the actual employer contribution is the expected pay-as-you-go amounts for the Medical Insurance Plan Contribution.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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**PUERTO RICO JUDICIARY RETIREMENT SYSTEM**

**SECTION IV - GASB 45 ACCOUNTING INFORMATION**

**G. Schedule of Funding Progress**

	(a)	(b)	(c)=(b)-(a)	(d)=(a)/(b)	(e)	(f)=(c)/(e)
Actuarial Valuation <u>Date</u>	Actuarial Value of <u>Assets</u>	Accrued <u>Liability</u>	Unfunded <u>Liability</u>	Funded <u>Ratio</u>	Annual <u>Salary</u>	Unfunded Liability as a % of Annual <u>Salary</u>
06/30/2017	\$0	\$7,429,373	\$7,429,373	0.0%	31,829,438	23.3%
06/30/2016	0	6,985,077	6,985,077	0.0%	32,204,166	21.7%
06/30/2015	0	6,917,381	6,917,381	0.0%	31,917,416	21.7%
06/30/2014	0	6,540,281	6,540,281	0.0%	31,706,608	20.6%
06/30/2013	0	6,704,736	6,704,736	0.0%	32,137,510	20.9%
06/30/2012	0	6,592,464	6,592,464	0.0%	33,065,960	19.9%

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION IV - GASB 45 ACCOUNTING INFORMATION

#### H. Additional Information

The following information was used to determine the Annual Required Contribution for the fiscal year ending June 30, 2018. The ARC is for the Medical Insurance Plan Contribution. See Section I for more information.

Valuation Date:	June 30, 2017
Actuarial Cost Method:	Entry age normal with normal costs as level percent of pay
Amortization method:	30 years closed, level percent of payroll
Remaining Amortization Period:	9 years
Asset valuation method:	Market Value of Assets
Assumptions:	
Investment rate of return	3.00%
Projected Salary Increases	0% until June 30, 2021; 3% thereafter
Payroll growth	0% until June 30, 2021; 3% thereafter
Inflation	not applicable
Cost of Living Adjustments	not applicable

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION V – CENSUS DATA

#### A. Reconciliation with Prior Valuation

	<u>Active</u>	<u>Terminated Vested</u>	<u>Retirees, Disabled Members, and Beneficiaries</u>	<u>Total</u>
Members as of July 1, 2015	371	39	448	858
Changes				
Terminated Vested	(5)	5	0	0
Retired & Disabled	(14)	(4)	18	0
Death	0	0	(2)	(2)
Disappeared	0	0	0	0
Refund/Transfer of Contributions	0	0	0	0
Return to Active	0	0	0	0
New	12	(1)	11	22
Members as of July 1, 2016	364	39	475	878

As of July 1, 2016, terminated vested members include both (a) 18 members due a deferred annuity benefit and (b) 21 members who are due a refund of member and, if applicable, employer contributions. Former active members hired before July 1, 2014 who are not vested in PRJRS but are covered by another Puerto Rico government system are assumed to be due both their member and employer contributions with interest.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION V – CENSUS DATA

#### B. Summary of Active Members as of July 1, 2016

Number of Active Participants by Age and Service Groups

Age Group	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	13	-	-	-	-	-	-	13
35-39	22	9	1	-	-	-	1	33
40-44	19	21	9	7	2	3	1	62
45-49	8	10	19	13	17	7	2	76
50-54	8	13	9	12	12	11	14	79
55-59	3	5	9	7	16	6	10	56
60-64	1	4	6	5	6	4	4	30
65-69	-	1	6	4	1	-	3	15
70+	-	-	-	-	-	-	-	-
Total	74	63	59	48	54	31	35	364

Average Annual Compensation of Active Participants by Age and Service Groups

Age Group	Years of Service							Average
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	71,631	-	-	-	-	-	-	71,631
35-39	81,209	78,489	89,600	-	-	-	69,600	80,370
40-44	87,253	86,067	82,933	88,286	79,600	82,933	89,600	85,923
45-49	86,525	85,600	87,495	81,554	89,694	91,800	89,600	87,071
50-54	84,025	92,385	89,089	87,550	89,217	90,164	90,700	89,339
55-59	88,067	89,600	89,089	89,600	88,425	86,267	94,780	89,668
60-64	89,600	88,450	92,167	92,680	91,333	93,450	97,300	92,360
65-69	-	89,600	99,867	101,050	89,600	-	89,600	96,760
70+	-	-	-	-	-	-	-	-
Average	82,349	86,702	89,054	87,992	89,019	89,503	91,829	87,444

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION V – CENSUS DATA

#### C. Summary of Terminated Vested Members as of July 1, 2016

<u>Age</u>	<u>Count</u>	<u>Average Annual Basic System Pension Benefit</u>
<35	-	-
35-39	-	-
40-44	-	-
45-49	1	52,200
50-54	7	38,589
55-59	5	46,440
60-64	3	51,801
65+	<u>2</u>	18,000
All	18	41,440

The Average Annual Pension Basic System Benefit amounts above are as of July 1, 2016 for terminated vested participants who are due a deferred annuity. In addition, there are 21 former participants who are due accumulated member and, if applicable, employer contributions totaling \$636,797 as of July 1, 2016.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION V – CENSUS DATA

#### D. Summary of Retirees as of July 1, 2016

<u>Age</u>	<u>Count</u>	<u>Average Annual Basic System Pension Benefit</u>	<u>Average Annual Total Pension Benefit</u>
<45	1	33,979	33,979
45-49	-	-	-
50-54	2	45,024	45,468
55-59	29	59,052	59,157
60-64	76	61,587	62,307
65-69	89	62,648	65,180
70-74	68	58,013	61,341
75-79	69	51,493	57,358
80-84	50	42,572	48,523
85-89	19	33,274	39,001
90-94	9	22,965	27,422
95-99	2	73,309	87,535
100+	-	-	-
All	414	54,843	58,200

The Average Annual Pension amounts above are as of July 1, 2016.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION V – CENSUS DATA

#### E. Summary of Beneficiaries as of July 1, 2016

<u>Age</u>	<u>Count</u>	<u>Average Annual Basic System Pension Benefit</u>	<u>Average Annual Total Pension Benefit</u>
<45	2	19,862	20,160
45-49	1	7,449	7,449
50-54	-	-	-
55-59	2	25,513	27,015
60-64	2	21,941	25,265
65-69	5	20,035	20,823
70-74	8	26,504	27,363
75-79	10	21,653	26,344
80-84	10	16,119	18,607
85-89	9	17,222	17,990
90-94	9	10,971	11,791
95-100	-	-	-
100+	<u>3</u>	27,813	30,565
All	61	19,167	21,059

The Average Annual Pension amounts above are as of July 1, 2016.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

Two main sets of benefit provisions apply to various members of PRJRS depending on the member's date of hire as a result of Act 162 of 2013, as modified by the February 21, 2014 decision of the Puerto Rico Supreme Court.

- The first set of provisions applies to judges hired on or before June 30, 2014. Distinctions for judges hired December 24, 2013 or later are noted throughout this first set of provisions as applicable.
- The second set of provisions applies to judges hired July 1, 2014 or later.

This summary of plan provisions, with separate descriptions for the two sets of benefits and the employer contributions, is intended only to describe the essential features of the plan for valuation purposes. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

#### **Provisions applicable to judges hired on or before June 30, 2014 (pre-Act 162)**

##### 1. Type of Plan

The System is a contributory, defined benefit plan.

##### 2. Effective Date

The Plan was established in 1954 by Act 12. The plan was last amended under Act 162, approved December 24, 2013.

##### 3. Eligibility for Membership

Members of the Judiciary Retirement System of Puerto Rico include all persons holding a position as Judge of the Supreme Court, Judge of the Court of Appeals, Superior Judges of the Court of First Instance, and Municipal Judges of the Court of First Instance in the Commonwealth of Puerto Rico hired on or before June 30, 2014 (Section 235 and Act 201 of 2003).

##### 4. Definitions

- a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30 (Section 234).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

- b. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.
- c. Creditable Service: The years and months (where fractional months are counted as full months of service) of System participation, beginning on the Date Credit Begins and ending on the date of separation of service. All intervening periods following a resignation, separation or expiration of any term by election or appointment during which a participant was not in government service are excluded. Periods for which no contributions have been made or for which contributions were refunded are also excluded. However, credit will be granted for refund periods if the participant returns any refunded Accumulated Contributions with interest to the System. (Section 234)
- d. Date Credit Begins: For participants with less than eight years of Credited Service as a judge, Creditable Service begins on the day of appointment as a judge. For participants with at least eight years of Creditable Service as a judge, Credited Service begins on the earlier of (1) the day of appointment as a judge or (2) the day first employed by the Government of Puerto Rico, provided that Accumulated Contributions for prior government service are transferred to the System. (Section 234)
- e. Salary: The annual compensation received by a judge for his services in that capacity (Section 234).
- f. Highest Salary: The highest salary received as a judge (Section 236).
- g. Average Compensation: The average of the 36 highest months of salary that the participant has received for Creditable Service (System Disability Regulation).
- h. Contributions: The amount deducted from the compensation of a Member (Sections 242 and 244).
- i. Interest: 2.5% compounded annually, or any other rate as may subsequently be prescribed by the Board of Trustees based on the System's experience (Section 234). The rate of 2.5% has always been in effect.
- j. Accumulated Contributions: The sum of all amounts deducted from the compensation of a Member with interest (Section 239).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

- k. Actuarial Equivalent: Equality in value such that the present value of the amount under any form of payment is essentially the same as the present value of the amount under the normal form of annuity payment for single participants. Actuarially Equivalent factors are determined based on annuity and mortality tables adopted by the Board of Trustees based on the system's experience and in accordance with the recommendations of the actuary. (Section 234)

#### 5. Retirement Benefits

##### a. Normal Retirement

Basic Eligibility: Age 60 with 10 years of Creditable Service (Section 236).

Basic Benefit: 25% of Highest Salary, plus 5% of Highest Salary for each year of Creditable Service in excess of 10 years, subject to a maximum of 75% of Highest Salary if hired before December 24, 2013 and 60% of Highest Salary if hired between December 24, 2013 and June 30, 2014 (Section 236).

Eligibility for judges who serve without a fixed tenure: 10 years of Creditable Service (Section 236, as interpreted by the System). This enhanced eligibility is not available to judges who are appointed after June 28, 2007 to an unlimited term (Act 54, Section 2).

Benefit for judges who serve without a fixed tenure: 25% of the Salary corresponding to the office during the retirement period, plus 5% of such Salary for each year of Creditable Service in excess of 10 years, subject to a maximum of 100% of such Salary. If the judge has served in a position without a fixed tenure for a total of at least 8 years, the 25% increases to 50% in the preceding formula. (Section 236). This enhanced benefit is not available to judges who are appointed after June 28, 2007 to an unlimited term (Act 54, Section 2).

Optional Eligibility: Age and Creditable Service as shown in the table below, provided at least 8 years of Creditable Service were earned in office as a judge (Section 236a).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

Age	Years of Creditable Service
Less than 60	30
62	20
61	21
60	22
59	23
58	24
57	25
56	26
55	27

Optional Benefit: 75% of Highest Salary if hired before December 24, 2013 and 60% of Highest Salary if hired between December 24, 2013 and June 30, 2014 (Section 236a).

Enhanced Eligibility: Any judge who has served without a fixed tenure for at least 3 years and has at least 25 years of Creditable Service (Section 236). This enhanced benefit is not available to judges who are appointed after June 28, 2007 to an unlimited term (Act 54, Section 2).

Enhanced Benefit: 75% of the Salary earned at the time of retirement (Section 236).

Compulsory Retirement: All judges must retire by age 70. If the judge has less than 10 years of creditable service, the judge can elect a refund of Accumulated Contributions or a proportional part of the Basic Benefit based on completed years and months of creditable service. (Section 236)

#### b. Early Retirement

Basic Eligibility: 20 years of Creditable Service before age 60 (Section 236).

Basic Benefit: The Basic Benefit payable under Normal Retirement, reduced on an actuarial equivalent basis for each month that Early Retirement Date precedes age 60. However, no actuarial reduction is applied for judges who serve without a fixed tenure. (Section 236).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

Optional Eligibility: 20 years of Creditable Service, provided at least 8 years of Creditable Service were earned in office as a judge (Section 236a).

Optional Benefit: 75% of Highest Salary if hired before December 24, 2013 and 60% of Highest Salary if hired between December 24, 2013 and June 30, 2014, reduced on an actuarial equivalent basis for each month that Early Retirement Date precedes the age specified in the table under Optional Eligibility under Normal Retirement for the applicable years of Creditable Service (Section 236a).

#### 6. Termination Benefits

##### a. Lump Sum Withdrawal

Eligibility: A Member is eligible upon termination of service.

Benefit: The benefit equals a refund of Accumulated Contributions (Section 239).

##### b. Deferred Retirement

Eligibility: A Member is eligible upon termination of service prior to age 60 and after 10 years of Creditable Service, provided the member has not taken a lump sum withdrawal.

Benefit: The benefit, commencing at age 60, is equal to the benefit payable upon Normal Retirement (Section 236).

#### 7. Death Benefits

##### a. Occupational Death Benefit

Eligibility: The beneficiaries of any active participant who dies from an employment-related cause under the Workmen's Accident Compensation Act (Section 240).

Spouse's Benefit: 50% of the participant's Salary at date of death, payable as an annuity until death or remarriage (Section 240).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

Children's Benefit: \$10 (\$20 if full orphan) for each child payable monthly until child's age 18 or completion of studies, if later. The maximum family benefit is 75% of the participant's Salary at date of death. (Section 240)

Benefit if no spouse or children: Refund of Accumulated Contributions, plus an amount equal to one year of Compensation in effect at the time of death (Section 240).

b. Pre-retirement Death Benefit

Eligibility: Any current non-retired member is eligible, provided not eligible for the Occupational Death Benefit (Section 240).

Benefit: The benefit is as follows:

- (i) While in active service, the benefit equals a refund of Accumulated Contributions; plus an amount equal to one year of Compensation in effect at the time of death (Section 240).
- (ii) While not in active service, the benefit equals a refund of Accumulated Contributions.

c. Special Pre-retirement Death Benefit

Eligibility: An active participant who was eligible to retire at the date of death with a surviving spouse or dependent children (Section 240a).

Benefit: The post-retirement death benefits described below assuming the active participant retired the day before the date of death (Section 240a).

d. Post-retirement Death Benefit

Eligibility: Any retiree or disabled member receiving a monthly benefit.

Benefit: The benefit is as follows:

- (i) For those married or with dependent children at the time of death, an annual income equal to 60% of the Retirement Benefit at time of death, payable for

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

life for a surviving spouse and/or disabled children and payable until age 18 or completion of studies, if later, for non-disabled children (Section 240a).

- (ii) The benefit, when there is no relation as stated above, is equal to the remaining balance of Accumulated Contributions at the time of retirement after the deduction of lifetime annual income paid and is payable to a beneficiary or to the Member's estate. In no case shall the benefit be less than \$1,000. The General Fund pays the difference, up to \$500, between (1) the Accumulated Fees with interest less the lifetime annual income paid and (2) \$1,000. The System pays for the rest. (Section 240 and Act 548)

#### 8. Disability Benefits

##### a. Non-occupational Disability

Eligibility: All members are eligible for Non-occupational Disability upon 10 years of Creditable Service and the occurrence of disability (Section 238).

Benefit: 30% of Average Compensation, plus 1% of Average Compensation for each year of creditable service in excess of 10 years, payable as an annuity; subject to a maximum of 50% of Average Compensation (Section 238).

##### b. Occupational Disability

Eligibility: All members disabled while in the course and as a consequence of their work, as certified by two physicians appointed by the Plan Administrator, and provided the member is receiving compensation from the Workmen's Accident Compensation Act (Section 238).

Benefit: 50% of Salary at date of disability, payable as an annuity, reduced by any payments received from the State Insurance Fund under the Workmen's Accident Compensation Act (Section 238).

- 9. Cost-of-Living Adjustments (COLA) to Pension Benefits: Effective January 1, 2001, commencing January 1, 2002 and subsequently every three years thereafter, the annual benefit is increased by 3% for retirees and disabled members provided that the member had been receiving payments for at least three years (Section 236c).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

These COLAs are paid by the General Fund. In addition, an ad-hoc 3% COLA was granted effective January 1, 1999 and is paid by the System (Section 236b).

10. Medical Insurance Plan Contribution: A payment of up to \$100 per month to the eligible medical insurance plan selected by the retiree or disabled member. This benefit is paid by the General Fund (Act 483).

11. Special “Bonus” Benefits:

- a. Christmas Bonus: An annual bonus of \$600 for each retiree, beneficiary, and disabled member paid in December provided the judge was hired before December 24, 2013. The System pays \$150 per retiree, beneficiary, and disabled member and the balance is paid by the General Fund (Act 144).
- b. Summer Bonus: An annual bonus of \$100 for each retiree, beneficiary, and disabled member paid in July provided the judge was hired before December 24, 2013. The amount is prorated if there are multiple beneficiaries. This benefit is paid by the General Fund (Act 37).
- c. Medication Bonus: An annual bonus of \$100 for each retiree, beneficiary, and disabled member to cover health costs paid in July provided the judge was hired before December 24, 2013. Evidence of coverage is not required. The amount is prorated if there are multiple beneficiaries. This benefit is paid by the General Fund (Act 155).
- d. Judges hired between December 24, 2013 and June 30, 2014 are not eligible for these special “bonus” benefits.

12. Forms of Payment

The basic pension benefits described in the above sections are payable in the form of a cash refund annuity. Optional benefits are provided upon a member’s death to the surviving beneficiaries as described in 7.d.

13. Member Contributions: Contributions by Members are 8.0% of Compensation if hired before December 24, 2013 and 10.0% of Compensation if hired between December 24, 2013 and June 30, 2014 (Sections 234, 240a and 242).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

#### **Provisions applicable to judges hired July 1, 2014 or later (Act 162)**

##### 1. Type of Plan

The System is a contributory, hybrid defined benefit plan.

##### 2. Effective Date

The Plan was established in 1954 by Act 12. The plan was last amended under Act 162, approved December 24, 2013.

##### 3. Eligibility for Membership

Members of the Judiciary Retirement System of Puerto Rico include all persons holding a position as Judge of the Supreme Court, Judge of the Court of Appeals, Superior Judges of the Court of First Instance, and Municipal Judges of the Court of First Instance in the Commonwealth of Puerto Rico hired July 1, 2014 or later (Section 235 and Act 201 of 2003).

##### 4. Definitions

- a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30 (Section 234).
- b. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.
- c. Creditable Service: The years and months (where fractional months are counted as full months of service) of System participation, beginning on the day of appointment as a judge and ending on the date of separation of service. All intervening periods following a resignation, separation or expiration of any term by election or appointment during which a participant was not a judge are excluded. Periods for which no contributions have been made or for which contributions were refunded are also excluded. (Section 234)
- d. Salary: The annual compensation received by a judge for his services in that capacity (Section 234).

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

- e. Average Compensation: The average of the last 60 months of salary that the participant has received for Creditable Service.
- f. Contributions: The amount deducted from the compensation of a Member (Sections 242 and 244).
- g. Actuarial Equivalent: Equality in value such that the present value of the amount under any form of payment is essentially the same as the present value of the amount under the normal form of annuity payment for single participants. Actuarially Equivalent factors are determined based on annuity and mortality tables adopted by the Board of Trustees based on the system's experience and in accordance with the recommendations of the actuary. (Section 234)
- h. Hybrid Program Contribution Account: The individual account established for each judge hired July 1, 2014 or later. Each member has a nonforfeitable right to their contributions to the Hybrid Program Contribution Account.
- i. Credits to Hybrid Program Contribution Account: The credits to the Hybrid Program Contribution Account include (1) contributions by the judge, (2) any discretionary matching contribution made by the Courts Administration Office, and (3) the investment yield for each semester of the fiscal year as determined by the Board. The investment yield determined by the Board shall never be less than 80% of the investment portfolio yield of the System during each semester of each fiscal year minus management fees such as, but not limited to, fees payable to administrator of the portfolio, custody and investment advice. With the move to pay-as-you-go funding under Act 106-2017, no investment credits are applied after July 1, 2017.

#### 5. Retirement Benefits

##### a. Normal Retirement

Eligibility: Age 65 with 12 years of Creditable Service.

Benefit: 1.5% of Average Compensation for each year of Creditable Service, plus the annuitized value of the balance in the Hybrid Program Contribution Account at the time of retirement. The benefit is payable for the member's lifetime.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

Compulsory Retirement: All judges must retire by age 70. If the judge has less than 12 years of creditable service, the judge will receive a refund of the Hybrid Program Contribution Account.

b. Early Retirement

Eligibility: Age 55 with 12 years of Creditable Service before age 65.

Benefit: 1.5% of Average Compensation for each year of Creditable Service, reduced by 1/180 for each for the first 60 months and by 1/360 for each of the next 60 months by which the early retirement date precedes age 65, plus the annuitized value of the balance in the Hybrid Program Contribution Account at the time of retirement. (Note that Act 162-2013 provides for an actuarial reduction for early retirement, however the PRJRS Board has not yet adopted the recommended factors as described in this paragraph.)

6. Termination Benefits

a. Lump Sum Withdrawal

Eligibility: A Member is eligible upon termination of service with less than 12 years of Creditable Service.

Benefit: The benefit equals a refund of the Hybrid Program Contribution Account.

b. Deferred Retirement

Eligibility: A Member is eligible upon termination of service prior to age 65 and after 12 years of Creditable Service, provided the member has not taken a lump sum withdrawal.

Benefit: The benefit, commencing at age 65, is equal to the benefit payable upon Normal Retirement. The benefit may commence as early as age 55, subject to the reductions described under early retirement.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

#### 7. Death Benefits

##### a. Pre-retirement Death Benefit

Eligibility: Any current non-retired member is eligible.

Benefit: A refund of the Hybrid Program Contribution Account.

##### b. Post-retirement Death Benefit

Eligibility: Any retiree or disabled member.

Benefit: If the member elected at the time of retirement to transfer a portion of the annuity to a beneficiary by selecting an actuarially equivalent optional form of payment, the applicable survivor benefit.

For all members, the excess, if any, of the Hybrid Program Contribution Account at the time of retirement over the total Hybrid Program annuity payments paid to the member and any beneficiary per the terms of the optional form of payment shall be payable to a beneficiary or the Member's estate.

#### 8. Disability Benefits

Eligibility: All members are eligible upon 5 years of Creditable Service and the occurrence of disability prior to age 65.

Benefit: 1.5% of Average Compensation for each year of Creditable Service plus the annuitized value of the balance in the Hybrid Program Contribution Account at the time of disability, payable as an annuity; subject to a maximum of 33% of Average Compensation.

#### 9. Cost-of-Living Adjustments (COLA) to Pension Benefits: Commencing January 1, 2017 and subsequently every three years thereafter, the annual benefit is increased by 3% for retirees and disabled members provided that the member had been receiving payments for at least three years (Section 236c). These COLAs are paid by the General Fund.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS** **AS OF JUNE 30, 2017**

10. Medical Insurance Plan Contribution: A payment of up to \$100 per month to the eligible medical insurance plan selected by the retiree or disabled member. This benefit is paid by the General Fund (Act 483).

11. Member Contributions: Contributions by Members are 12.0% of Compensation.

#### **Employer Contributions**

1. Payroll-based Employer Contributions: Not applicable. Eliminated July 1, 2017 by Act 106-2017.

Formerly - Contributions by the Commonwealth of Puerto Rico are 30.34% of Compensation (Section 242). Prior to July 1, 2008, the employer contribution rate was 20.0% of Compensation. In addition, for members hired July 1, 2014 or later, a discretionary matching employer contribution up to 6.0% of Compensation may be made to the member's Hybrid Program Contribution Account.

2. Additional Contribution: Not applicable. Eliminated July 1, 2017 by Act 106-2017.

Formerly - Beginning with the 2014-2015 fiscal year, the System will receive an Additional Contribution as necessary to avoid having the projected gross assets of the System, during any subsequent fiscal year, to fall below \$20 million. (Act 162 of 2013)

#### **Changes in Plan Provisions since Prior Valuation**

Act 106-2017 eliminated the payroll-based employer contributions and Additional Contribution and provides that benefits will be funded on a pay-as-you-go basis. Because of the funding policy change, no investment credits will be applied to the Hybrid Program Contribution Account effective July 1, 2017.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017**

Investment Return: Not applicable due to pay-as-you-go funding. As of June 30, 2016 was 5.70% per annum, net of investment expenses (based on the System's investment policy, including target asset allocation, and Milliman's capital market assumptions as of June 30, 2016).

Municipal Bond Rate: 3.58% per annum (Bond Buyer General Obligation 20-Bond Municipal Bond Index)

GASB 67 discount rate: 3.58% per annum

GASB 45 discount rate: 3.00% per annum. Based on the Commonwealth's asset allocation for the general assets that are used to pay this benefit and Milliman's capital market assumptions as of June 30, 2017.

Compensation Increases: 3.0% per year. However, no compensation increases are assumed from July 1, 2013 until July 1, 2021 as a result of the Act 3-2017 four year extension of the Act 66-2014 salary freeze. Based on professional judgment and System input.

Hybrid Program Contribution Account: Member contributions to the Hybrid Program Contribution Account are assumed to be 12.0% of Compensation. No matching employer contributions to the Hybrid Program Contribution Account are assumed. Hybrid Program Contribution Accounts are assumed to grow using a 4.56% annual investment return (80% of the net investment return assumption) for 2016-2017 and a 0% annual investment return thereafter.

Annuitization of Hybrid Program Contribution Account: Single life annuity factors using an interest rate of 4% and the RP-2000 Healthy Annuitant Mortality Table for ages 50 and over and the RP-2000 Employee Mortality Table for ages under 50, projected to 2025 using Scale AA and blended 50% male / 50% female, are used to convert the Hybrid Program Contribution Account to a lifetime annuity.

Basis for demographic assumptions: The mortality assumptions reflect standard industry tables that were selected based on the characteristics of the System's members. Most other demographic assumptions used in this valuation are based on a 2009 experience study using data as of June 30, 2003, June 30, 2005, and June 30, 2007. Certain demographic assumptions (e.g. termination and retirement) were impacted by the Act 162-2013 pension reforms and were revised based on the new retirement eligibility and

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

expected future experience. All assumptions were reviewed with PRJRS staff for reasonableness and are documented in this Section.

Termination – Judges who serve with a fixed tenure: Withdrawal rates vary by age and years of Creditable Service as a judge (not including any prior governmental service for judges hired before July 1, 2014).

Years of Creditable Service	Less than Age 45	Age 45 and older
0 – 6	3.5%	0.0%
7	0.0	0.0
8	30.0	15.0
9 – 11	3.0	3.0
12+	0.0	0.0

Retirement – Judges who serve with a fixed tenure and were hired before July 1, 2014: Rates of retirement vary by age and years of Creditable Service (including any prior governmental service). Retirement rates are not applied prior to completion of 8 years of Creditable Service as a judge.

If Eligible for the 75% of Highest Salary Maximum Benefit:

A retirement rate of 45% per year is assumed for active members who are eligible for retirement with the maximum benefit (e.g. age 60 with 20 years of Creditable Service, 30 years of Creditable Service, or Optional Eligibility).

If Not Yet Eligible for the 75% of Highest Salary Maximum Benefit:

The rates shown below apply when an active member is eligible for retirement with less than the maximum benefit (e.g. age 60 with 10 years of Creditable Service, or 20 years of Creditable Service before age 60).

Age	Less than 20 years of Creditable Service	20 or more years of Creditable Service
Less than 60	N/A	1.5%
60 and older	8.0%	N/A

At age 70, a retirement rate of 100% is applied.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Retirement – Judges hired July 1, 2014 or later – Rates of retirement vary by age once eligible for early retirement (age 55 with 12 years of Creditable Service) or normal retirement (age 65 with 12 years of Creditable Service).

Age	Rate of Retirement
55 to 59	1.0%
60 to 61	2.0
62 to 64	10.0
65	30.0
66 to 69	20.0
70+	100%

Termination – Judges who serve without a fixed tenure: No termination is assumed prior to retirement eligibility.

Retirement – Judges who serve without a fixed tenure: Rates of retirement vary by age. The rates do not apply until the completion of 10 years of Creditable Service with 8 years earned as judge.

Age	Rate of Retirement
Under 65	0%
65 to 69	20
70 & Over	100

For benefit purposes, all Judges who serve without a fixed tenure are assumed to retire with at least 8 years of Creditable Service earned as a judge without a fixed tenure.

Commencement of benefits for terminated vested members: Current terminated members with a vested benefit are assumed to retire at age 60 if hired before July 1, 2014 or age 65 if hired July 1, 2014 or later, or at the attained age on the valuation date if later. Future terminated vested members are assumed to retire at age 60 if hired before July 1, 2014 or age 65 if hired July 1, 2014 or later.

Disability: 50% of the six month elimination period rates in the 1987 Commissioners Group Disability Table. 100% of disabilities are assumed to be occupational. For judges hired before July 1, 2014, rates of disability cease to apply once a member is eligible for

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017**

the 75% of Highest Salary maximum benefit. For judges hired July 1, 2014 or later, rates of disability cease to apply at age 65.

Pre-retirement Mortality: RP-2014 Employee Mortality Rates with white collar adjustments for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date.

Among deaths while in active service, 50% are assumed to be occupational, 50% are assumed to be non-occupational.

Post-retirement Healthy Mortality: RP-2014 Healthy Annuitant Mortality Rates with white collar adjustments for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date.

Post-retirement Disabled Mortality: RP-2014 Disabled Annuitant Mortality Rates, for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date.

Marriage: 75% of current active and terminated members are assumed to be married at retirement with males 3 years older than females.

Form of Payment: For judges hired before July 1, 2014, future retired members are assumed to receive a joint and 60% survivor annuity if married and a modified cash refund (approximated by a single life annuity with 2 years certain) if not married. For judges hired July 1, 2014 or later, future retired members are assumed to receive a modified cash refund.

Spousal information was not provided for current retired and disabled members. If the retiree or disabled member was indicated as married, that member was assumed to receive a joint and 60% survivor annuity. The spouse's date of birth was imputed based on an assumed age difference of 3 years with males older than females. If the retiree or

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017**

disabled member was indicated as not married, that member was assumed to receive a modified cash refund (approximate by a single life annuity with 2 years certain).

No future dependent children were assumed to become beneficiaries.

Members who terminate employment with at least 10 years of Creditable Service (12 years of Creditable Service if hired July 1, 2014 or later) are assumed to elect to receive a deferred pension benefit in lieu of a refund of contributions.

Medical Insurance Plan Contribution: 75% of future and current service and disability retirees are assumed to receive a monthly medical insurance continuation benefit of \$100 per month.

Tenure as Judge: Supreme Court judges appointed before June 29, 2007 are assumed to serve with unlimited terms. All other judges are assumed to have a fixed tenure.

Census Data Collection Date: July 1, 2016. When information is provided by participant category in this report, the category is determined as of the census data collection date.

Special Data Adjustments: The following adjustments were made to the census data received from the System.

Benefits for some of the current terminated vested members were estimated based on the provided years of creditable service and the last monthly salary.

Refer to the Form of Payment assumption above for a description of form of payment and spousal data imputation for current retired and disabled members.

Accumulated member contributions for active members hired before July 1, 2014 with other government service include the contributions accumulated during the other government service.

Benefits for current beneficiaries who are under age 22 as of the valuation date were assumed to cease at age 22. Benefits for current beneficiaries who are age 22 or older as of the valuation data were assumed to be payable for life. In addition, the current level of benefit was assumed to remain constant.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017**

Benefits not valued: The minimum post-retirement death benefit of \$1,000 for retirees without surviving beneficiaries (for judges hired before July 1, 2014) is not explicitly valued. The additional liability associated with this benefit is expected to be de minimis.

Changes in actuarial assumptions since the prior valuation: The investment return assumption is no longer applicable due to pay-as-you-go funding. As of June 30, 2016 it was 5.70% per annum, net of investment expenses.

The municipal bond rate used as the discount rate for GASB 67 has increased from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017.

The investment return assumption for GASB 45 purposes was decreased from 3.10% to 3.00%.

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the projected mortality improvement scale issued in the valuation year.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### **SECTION VIII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017**

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help to ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year. Therefore, the pattern of annual contributions and accounting expense varies with the choice of cost method. Annual contributions and accounting expense are also affected by the "asset valuation method" (as well as the plan provisions, actuarial assumptions, and actual plan demographic and investment experience each year).

#### Actuarial Cost Method

The plan's actuarial cost method is the entry age normal method. Under this method, a projected benefit is determined at each active participant's assumed retirement age assuming future compensation increases. The plan's normal cost is the sum of each active participant's annual cost for the current year of service determined such that, if it were calculated as a level percentage of his compensation each year, it would accumulate at the valuation interest rate over his total prior and future years of service as a judge to his assumed retirement date into an amount sufficient to fund his projected benefit. The plan's accrued liability is the sum of (a) the accumulation of each active participant's normal costs attributable to all prior years of service plus (b) the present value of each inactive participant's future benefits.

#### Asset Valuation Method

The Market Value of Assets.

#### Liability Determination

The results as of June 30, 2017 are based on projecting the System obligations determined as of the census data collection date of July 1, 2016 for one year using roll-forward methods, assuming no liability gains or losses.

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## PUERTO RICO JUDICIARY RETIREMENT SYSTEM

### SECTION VIII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017

#### Changes in actuarial methods since the prior valuation

None.

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